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a second set of routers for interconnecting the first set of routers wherein the hypercubes remain in tack as the system is expanded.

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### Abstract of the Disclosure

A system and method for interconnecting a plurality of processing element nodes within a scalable multiprocessor system is provided. Each processing element node includes at least one processor and memory. A scalable interconnect network includes physical communication links interconnecting the processing element nodes in a cluster. A first set of routers in the scalable interconnect network route messages between the plurality of processing element nodes. One or more metarouters in the scalable interconnect network route messages between the first set of routers so that each one of the routers in a first cluster is connected to all other clusters through one or more metarouters.

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